

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

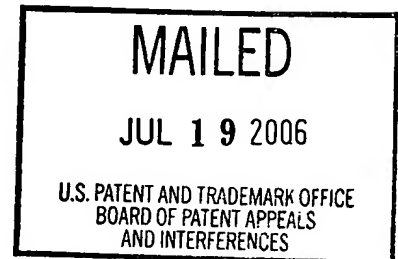
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GEOFFRY A. WESTPHAL and MIKE McHUGH

Appeal No. 2006-1695
Application No. 10/649,277

ON BRIEF



Before THOMAS, HAIRSTON, and JERRY SMITH, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-25 and 27-39, which constitute all the claims pending in this application.

The disclosed invention pertains to a system and method for storing image data associated with a plurality of original images. Specifically, the content of each of the plurality of original images is altered in different ways (e.g., rotating, flipping, etc.) to create a plurality of resultant images associated with each of the plurality of original images. Each of the resultant images is then compressed. One compressed resultant image associated with each original image is then selected from the plurality of compressed, resultant images. The selected compressed resultant images are then stored and are retrievable to be displayed as a representation of its corresponding original image.

Representative claim 1 is reproduced as follows:

1. A method for compressing and storing a plurality of images, comprising:

creating for each of a plurality of original images a plurality of resultant images by altering the content of each of the plurality of original images a corresponding plurality of different ways;

compressing each of the plurality of resultant images;

selecting from the plurality of compressed, resultant images created from each of the plurality of original images one compressed, resultant image;

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placing each of the selected one of the plurality of compressed, resultant images into a concatenation file; and

creating a look-up table corresponding to the concatenation file by which each of the selected one of the plurality of compressed, resultant images is retrievable from the concatenation file.

The examiner relies on the following references:

Takagi	5,486,893	Jan. 23, 1996
Lee	5,635,984	Jun. 3, 1997
Kuchta et al. (Kuchta)	5,164,831	Nov. 17, 1992
Higgins et al. (Higgins)	5,835,627	Nov. 10, 1998
Takeda et al. (Takeda)	5,343,560	Aug. 30, 1994
Kagle	6,148,149	Nov. 14, 2000

The following rejections are on appeal before us:

1. Claims 1-3, 6, 7, 12-16, 19, 20, 28-30, 33, 34, and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takagi in view of Lee and further in view of Kuchta.

2. Claims 4, 5, 8, 9, 11, 17, 18, 21, 22, 24, 31, 32, 35, 36, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takagi in view of Lee, Kuchta, and further in view of Kagle.

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3. Claims 10, 23, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takagi in view of Lee, Kuchta, and further in view of Higgins.

4. Claims 25 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeda in view of Kagle.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill

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in the art the obviousness of the invention as set forth in claims 1-24 and 28-39. We reach the opposite conclusion, however, with respect to claims 25 and 27. Accordingly, we affirm-in-part.

We first consider the rejection of claims 1-3, 6, 7, 12-16, 19, 20, 28-30, 33, 34, and 39 under 35 U.S.C. § 103(a) based on Takagi, Lee, and Kuchta. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The examiner must articulate reasons for the examiner's decision. In re Lee, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). In particular, the examiner must show that there is a teaching, motivation, or suggestion of a motivation to combine references relied on as evidence of obviousness. Id. at 1343. The examiner cannot simply reach conclusions based on the examiner's own understanding or experience - or on his or her assessment of

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what would be basic knowledge or common sense. Rather, the examiner must point to some concrete evidence in the record in support of these findings. In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Thus the examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the examiner's conclusion. However, a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kahn, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) citing In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Thrift, 298 F. 3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). These showings by the examiner are an essential part of complying with the burden

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of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)(2004)].

Regarding independent claims 1, 13, 28, and 39, the examiner's rejection essentially finds that Takagi teaches every claimed feature except for (1) compressing the plurality of resultant images, and (2) storing the selected resultant images in a file and creating a look-up table to access the images

[answer, pages 4 and 5]. The examiner first cites Lee as teaching compressing picture data to display multiple pictures on a digital camera screen simultaneously. Relying on the teachings of Lee along with Fig. 15 of Takagi, the examiner finds that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Takagi to compress each resultant image prior to its display to fit the simultaneously-displayed images on the screen [answer, pages 4, 5, and 14].

The examiner next cites Kuchta as teaching creating thumbnail (compressed) versions of images and storing such compressed images along with the full image as shown in Fig. 2B [answer, page 5]. The examiner contends that storing thumbnail images as in Fig. 2B of Kuchta places such images in a concatenation file along with a directory (look-up table) to retrieve the thumbnails [answer, pages 5 and 6]. In view of Kuchta, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Takagi/Lee combination by placing each selected

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compressed resultant image into a concatenation file and create a look-up table to easily access images for review via thumbnail versions of the images [answer, page 6].

Appellants argue, among other things, that Takagi does not teach nor suggest allowing a user to select from multiple displayed images -- compressed or otherwise -- a selected image that is to be digitally stored in memory as claimed [reply brief, page 3]. According to appellants, Takagi is concerned with allowing a user to select and save a desired camera setting (e.g., exposure, focus, and composition) from multiple, displayed images for later capture of the image on film using the desired camera setting [reply brief, page 3]. Appellants further argue that although Lee may suggest storing images digitally, Lee does not teach nor suggest placing a selected one of a plurality of compressed, resultant images into any sort of memory (i.e., storing a compressed, resultant image in memory after it has been selected) [reply brief, page 4].

Appellants also argue that Kuchta teaches storing both thumbnail and original images before processing or selection.

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According to appellants, Kuchta teaches away from the claimed system which processes the images' original content before compression, selection, and storage to increase the number of images capable of being stored in a memory device [brief, page 10]. As a result, appellants conclude that the cited prior art does not teach nor suggest (1) selecting one compressed resultant image from a plurality of compressed resultant images, and then (2) placing each of the selected ones of the plurality of compressed, resultant images into memory as claimed [reply brief, page 5].

The examiner argues that by storing Takagi's compressed resultant images in accordance with Kuchta's method, reduced-size preview images can be quickly displayed since it is unnecessary to decompress the full-resolution version of the image [answer, pages 17, 20, and 21]. The examiner further notes that because Takagi's compressed resultant images that are displayed as a group are already stored in memory prior to display, the combined teachings of the cited prior art teaches that all of the selected images have already been placed into a concatenation file (i.e., stored) when they are selected [answer, page 18].

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We will not sustain the examiner's rejection of claims 1-3, 6, 7, 12-16, 19, 20, 28-30, 33, 34, and 39. Takagi discloses a camera that displays predicted images that are based on stored image signals with diverse photographic information such as varied luminance values, focus positions, and angles of view [Takagi, abstract, col. 2, lines 1-15]. The user then selects at least one of the displayed plural images and then photographs the image in accordance with the photographic information corresponding to the selected image [id.]. Such a feature not only educates novice photographers regarding the results achievable by adjusting various controlling values, it also informs users of the resultant images before actual photographing so that appropriate and intended photographs are obtainable with only one frame of film [Takagi, col. 1, lines 54-67, col. 12, lines 13-26].

As an initial matter, we note that independent claims 1, 13, 28, and 39 recite, among other things, that the plurality of resultant images is created for each of a plurality of original

images [emphasis added]. Therefore, a plurality of resultant images will exist for each respective original image of the plurality of original images.

Turning to Takagi, we first note that the resultant images displayed in Fig. 15 of Takagi are derived from the same original image -- not a plurality of original images as claimed. Although the examiner acknowledges this fact on page 4 of the answer, the examiner nevertheless contends that Takagi's method is applicable to any pictures to be taken by the camera. According to the examiner, because the user can take as many preview images as desired, a plurality of resultant images for each of a plurality of original images is therefore created [answer, pages 4 and 14].

Although multiple original images would arguably produce their own sets of predicted images derived from their respective original images in Takagi, we conclude that given the purpose and function of Takagi -- namely to photograph an image on film using a particular photographic control value selected from a variety of different control values -- the skilled artisan would not have found obvious the claimed limitations even when combined with the

secondary references. Specifically, we do not agree with the examiner that the cited prior art teaches or suggests (1) selecting one compressed resultant image from each of the plurality of original images after compressing each of the resultant images, and (2) placing each of the selected compressed resultant images into a concatenation file, let alone creating a look-up table corresponding to the concatenation file as claimed.

Takagi is a film camera. For any given photograph, once the user selects at least one desired image among the plurality of displayed predicted images as shown in Fig. 15, Takagi's film camera then photographs the image based on the control values associated with the selected image. For additional photographs, the process is repeated. Takagi also discloses in col. 2, lines 40-44 and col. 13, lines 7-11 that the camera includes terminals that connect a plurality of image signals stored by the camera's image storing device to external storage media.

Although Takagi teaches storing images, we find no teaching or suggestion in the cited prior art to select one compressed resultant image from each of the plurality of original images

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after compressing each of the resultant images. At best, the cited passage of Takagi above teaches storing the entire group of displayed images, not one selected image from each of a plurality of original images.

Nor do we find any reason on this record why the skilled artisan would store selected resultant images that were each created from an associated original image from a plurality of original images apart from appellants' own disclosure. While Takagi does allow the user to select resultant images each time the images are displayed, the image based on the user's selection for that particular photograph is ultimately captured on film and the process ends.

Based on the limited function and purpose of Takagi, we see no reason why the skilled artisan would modify Takagi in the manner suggested by the examiner to separately select and save particular resultant images associated with respective multiple original images. It is well settled that obviousness determinations "cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the...invention. There must be a teaching or

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suggestion within the prior art, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources of information, to select particular elements, and to combine them in the way they were combined by the inventor." ATD Corp. v. Lydall, Inc., 159 F.3d 534, 546, 48 USPQ2d 1321, 1329 (Fed. Cir. 1998).

Although Lee teaches the need to compress picture data to display multiple pictures simultaneously, and Kuchta teaches storing thumbnail images along with original images, we find that there is no reasonable teaching or suggestion from the cited prior art why the skilled artisan would have separately selected and saved resultant compressed images associated with multiple original images in the film camera of Takagi absent the use of impermissible hindsight.

For the above reasons, the examiner's rejection of independent claims 1, 13, 28, and 39 is therefore reversed. Since we do not sustain the examiner's rejection of independent claims 1, 13, and 28, and since neither Kagle nor Higgins

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overcomes the deficiencies noted above, we likewise do not sustain the examiner's rejection of dependent claims 2-12, 14-24, and 29-38.

We next consider the examiner's rejection of claims 25 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Takeda in view of Kagle. The examiner's rejection essentially finds that Takeda teaches every claimed feature except for including data indicative of whether the image was flipped or the degree of rotation compared to the original corresponding image. The examiner also finds that the claims differ from Takeda in calling for flipping or rotating the image so that the orientation of the displayed image corresponds to the orientation of its corresponding original image. The examiner cites Kagle as teaching a camera that flips or rotates an image prior to display so that the displayed image's orientation corresponds to the orientation of the captured image. The examiner concludes that, in view of Kagle, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the

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system of Takeda to further rotate or flip the displayed image to preclude the need for the user to preview and rotate the images manually [answer, page 12].

Appellants argue that although Kagle discloses maintaining the orientation of a camera along with an original image captured by the camera, the reference fails to disclose storing an indication of whether a compressed image was rotated or flipped compared to its corresponding original image as claimed [brief, page 16]. The examiner responds that every image is stored in Kagle in a landscape orientation and flags are embedded with each stored image that indicate the degree that each image was rotated when stored as compared to its corresponding original image as captured [answer, page 22]. Appellants argue that Kagle's flags do not indicate the degree to which each image was rotated when stored as compared to the corresponding original image as captured [reply brief, page 8]. Appellants contend that Kagle does not teach nor suggest (1) storing data indicative of whether a compressed image was rotated/flipped as compared to its

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original image, and (2) a program that then uses this data to re-rotate or re-flip the image to correspond to its original image as claimed [reply brief, page 8].

Appellants also argue that Kagle's stored camera orientation data is to be used by a display device external to the camera. According to appellants, Kagle therefore does not disclose a hand-held device that includes a program that functions to access data stored on the hand-held device corresponding to a compressed image and that uses data indicative of whether the compressed image was rotated or flipped as compared to its corresponding original image to rotate or flip the image as appropriate [brief, page 16]. The examiner responds that Takeda discloses an image display that is included in the image processing apparatus of Fig. 1 [answer, page 22]. The examiner further interprets the limitation "hand-held device" in the preamble as having no patentable weight or, in the alternative, modifying Takeda's system to function in the manner claimed in a smaller portable device would have been an obvious modification [answer, pages 22 and 23].

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We will sustain the examiner's rejection of claims 25 and 27. We note at the outset that appellant's arguments are directed to the Kagle reference and its combination with Takeda. In short, appellants have not persuasively rebutted the examiner's interpretation of Takeda on page 11 of the answer which we find reasonable.

Kagle teaches automatically reorienting a captured image responsive to the orientation of an image sensor to correct for different orientations of a camera. Sensor 30 detects camera orientation and, in one embodiment, a flag is embedded within the formatted image object that specifies the camera's orientation when the image was captured. Actual rotation can occur outside the camera by a computer or other processing device prior to viewing the image [Kagle, col. 3, lines 30-67]. In another embodiment, the camera itself automatically rotates the image responsive to the orientation of the image sensor by reordering the image's pixel values [Kagle, col. 4, lines 1-60].

We agree with the examiner that Kagle's teaching is reasonably combinable with Takeda essentially for the reasons stated by the examiner. In short, we see no reason why Kagle's

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teaching of embedding flags in image files could not be applied to the image data system of Takeda. Because images are stored in default landscape orientation, the embedded flag in Kagle is effectively data indicative of the degree that an image was rotated (i.e., 0° or 90°) as compared to its original captured image (i.e., its corresponding original image) depending on the camera's orientation. In our view, such a teaching would have been readily applicable to the compressed image storage and display system of Takeda. Although Kagle indicates that actual rotation can occur outside the camera in this embodiment, we agree with the examiner that Kagle's teaching would nonetheless have been reasonably applicable to Takeda's image display system, particularly noting that Takeda's system includes, among other things, a CPU 8 and a display 5 controlled by display controller 6. Also, as noted previously, Kagle expressly teaches in a second embodiment that the camera itself can automatically rotate images.

Finally, we note that the combined teachings of Kagle and Takeda fairly teach and suggest a hand-held device with the claimed features. First, digital cameras that store captured

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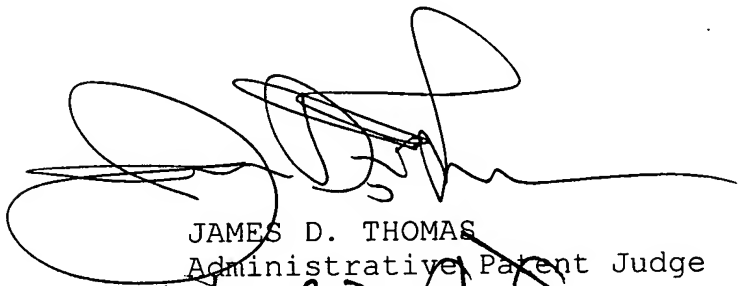
images, such as the camera disclosed by Kagle, are typically hand-held devices. See, e.g., Kagle, col. 4, lines 48-50 (teaching detecting the camera's orientation by sensing the position of a user's hands or fingers on the camera). In our view, such a teaching would have reasonably suggested to the skilled artisan the benefits of such hand-held devices, such as portability, ease of manipulation, etc. Secondly, we note that appellants have not persuasively rebutted the examiner's position that incorporating Takeda's system into a smaller, portable device would have been an obvious modification. The examiner's obviousness rejection of claims 25 and 27 is therefore sustained.

In summary, we have not sustained the examiner's rejection with respect to claims 1-24 and 28-39 on appeal. We have, however, sustained the examiner's rejection with respect to claims 25 and 27. Therefore, the decision of the examiner rejecting claims 1-25 and 27-39 is affirmed-in-part.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a)(1)(iv).

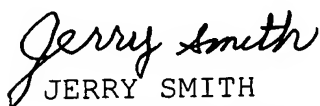
AFFIRMED-IN-PART



JAMES D. THOMAS
Administrative Patent Judge



KENNETH W. HAIRSTON
Administrative Patent Judge



JERRY SMITH
Administrative Patent Judge

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GREENBERG TRAURIG, LLP
77 WEST WACKER DRIVE
SUITE 2500
CHICAGO IL 60601-1732